WHAT IS CLAIMED IS:

1. A photoresist composition for an MMN head coater comprising:

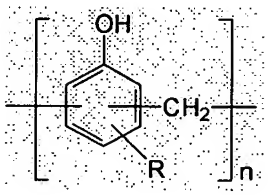
(a) 5 to 30 wt% of a polymer resin represented by the following Chemical Formula 1;

(b) 2 to 10 wt% of a diazide photoactive compound;

(c) 50 to 90 wt% of an organic solvent; and

(d) 500 to 4000 ppm of a Si-based surfactant:

Chemical Formula 1



wherein R is C_1 to C_4 alkyl, and n is an integer of 15 to 10,000.

2. The photoresist composition according to Claim 1, wherein the polymer resin is a novolak resin having a molecular weight ranging from 2000 to 12,000.

3. The photoresist composition according to Claim 1, wherein the organic solvent is one or more substance selected from a group consisting of propyleneglycol methyl ether acetate (PGMEA), ethyl acetate (EL), 2-methoxyethylacetate (MMP), n-butyl acetate (nBA), propyleneglycol monomethyl ether (PGME), and ethyl-3-ethoxypropionate (EEP).

4. The photoresist composition according to Claim 1, wherein the organic solvent is a mixture of 50 to 90 wt% of propyleneglycol methyl ether acetate (PGMEA)

and 10 to 50 wt% of ethyl-3-ethoxypropionate(EEP).

5. The photoresist composition according to Claim 1, wherein the Si-based surfactant is a polyoxyalkylene dimethylpolysiloxane copolymer compound.

6. The photoresist composition according to Claim 1, wherein the composition further comprise the nitrogen-containing crosslinking agent of one or more selected from a group consisting of a condensation product of urea and formaldehyde, a condensation product of melamine and formaldehyde, a methylol urea alkyl aldehyde condensate, one of a methylol urea alkylether series, and one of a methylol melamine alkylether series.

7. A pattern formation method comprising:

(a) a step of coating the photoresist composition according to Claim 1 on a substrate and drying it to prepare a photoresist film;

(b) a step of placing a patterned mask on the substrate and exposing the photoresist film to light; and

(c) a step of developing the exposed photoresist film to obtain a photoresist pattern.

8. The pattern formation method according to Claim 6, wherein the photoresist composition is coated by the spray dispense method or the spin coating method.

9. The pattern formation method according to Claim 6, wherein the photoresist composition is coated by the slit & spin coating method.

10. A semiconductor device having a pattern formed by the method according to Claim 7.